

What is claimed is:

1. A method of assembling a snowmobile platform, comprising:  
designing and manufacturing a tunnel subassembly;  
designing and manufacturing an engine cradle subassembly;  
designing and manufacturing a front suspension subassembly;  
wherein at least one of the tunnel subassembly, the engine cradle subassembly, and the front suspension subassembly comprises a group of subassemblies,  
for each subassembly that comprises a group of subassemblies, selecting one subassembly from the group of subassemblies;  
connecting the tunnel subassembly to the engine cradle subassembly at a rear portion thereof; and  
connecting the front suspension subassembly to the engine cradle subassembly at a front portion thereof to create the snowmobile platform.
2. The method of claim 1, wherein:  
the group of tunnel subassemblies comprises a short tunnel subassembly and a long tunnel subassembly.
3. The method of claim 1, wherein:  
the group of engine cradle subassemblies comprising a small engine cradle subassembly, a medium engine cradle subassembly, a large engine cradle subassembly, and an extra-large engine cradle subassembly.

4. The method of claim 1, wherein:

the group of front suspension subassemblies includes at least two selected from a group comprising a small platform front suspension subassembly, a large platform front suspension subassembly, a deep snow front suspension subassembly, and a trail front suspension subassembly.

5. The method of claim 1, further comprising:

designing and constructing an upper frame subassembly; and  
attaching the upper frame subassembly to the snowmobile platform.

6. The method of claim 2, wherein each tunnel subassembly comprises:

a top with left and right sides,  
a left side wall extending downwardly from the left side of the top, and  
a right side wall extending downwardly from the right side of the top,  
wherein each tunnel subassembly forms an inverted U-shaped tunnel.

7. The method of claim 6, wherein:

the width of each tunnel subassembly is selected at least as a function of a width of an endless track selected for attachment to the snowmobile platform; and

the length of each tunnel subassembly is selected at least as a function of the length of the endless track selected for attachment to the snowmobile platform.

8. The method of claim 3, wherein each engine cradle subassembly comprises:

a bottom pan with left, right, front, and rear sides;  
a left side wall attached to the left side of the bottom pan;

a right side wall attached to the right side of the bottom pan;

a front wall attached to the front of the bottom pan; and

a rear wall attached to the rear of the bottom pan.

9. The method of claim 8, wherein:

the width of each engine cradle subassembly is selected at least as a function of a size of an engine selected for placement onto the snowmobile platform; and

the length of each tunnel subassembly is selected at least as a function of the size of the engine selected for placement onto the snowmobile platform.

10. The method of claim 4, wherein each front suspension subassembly comprises:

a V-shaped member with left and right sides;

a left side wall attached to the left side of the V-shaped member;

a right side wall attached to the right side of the V-shaped member;

at least four A-arms pivotally connected to the V-shaped member, two on the left side and two on the right side;

at least one shock absorber connected between the left side wall and one of the A-arms on the left side of the V-shaped member; and

at least one shock absorber connected between the right side wall and one of the A-arms on the right side of the V-shaped member.

11. A snowmobile platform, comprising:

a tunnel subassembly, selected from a group of tunnel subassemblies;

an engine cradle subassembly disposed forwardly of the tunnel subassembly, the engine cradle subassembly being selected from a group of engine cradle subassemblies; and

a front suspension subassembly attached forwardly to the engine compartment subassembly, the front suspension subassembly being selected from a group of front suspension subassemblies.

12. The snowmobile platform of claim 11, wherein:

the tunnel subassembly and the engine cradle subassembly are formed integrally as a single component of the platform.

13. The snowmobile platform of claim 11, wherein:

the engine cradle subassembly is attached to the tunnel subassembly.

14. The snowmobile platform of claim 11, wherein:

the group of tunnel assemblies includes at least two selected from a group comprising a short tunnel subassembly and a long tunnel subassembly.

15. The method of claim 11, wherein:

the group of engine cradle subassemblies includes at least two from a group comprising a small engine cradle subassembly, a medium engine cradle subassembly, a large engine cradle subassembly, and an extra-large engine cradle subassembly.

16. The method of claim 11, wherein:

the group of front suspension subassemblies includes at least two selected from a group comprising a small platform front suspension subassembly, a large platform front suspension subassembly, a deep snow front suspension subassembly, and a trail front suspension subassembly.

17. The snowmobile platform of claim 11, further comprising:  
an upper frame subassembly connected to at least two of the tunnel subassembly, the engine cradle subassembly, and the front suspension subassembly.
18. The snowmobile platform of claim 11, wherein the tunnel subassembly comprises:  
a top with left and right sides,  
a left side wall extending downwardly from the left side of the top, and  
a right side wall extending downwardly from the right side of the top,  
wherein the tunnel subassembly forms an inverted U-shaped tunnel.
19. The snowmobile platform of claim 18, wherein:  
the width of the tunnel subassembly is selected at least as a function of a width of an endless track selected for attachment to the snowmobile platform; and  
the length of the tunnel subassembly is selected at least as a function of a length of the endless track selected for attachment to the snowmobile platform.
20. The snowmobile of claim 11, wherein the engine cradle subassembly comprises:  
a bottom pan with left, right, front, and rear sides;  
a left side wall attached to the left side of the bottom pan;  
a right side wall attached to the right side of the bottom pan;  
a front wall attached to the front of the bottom pan; and  
a rear wall attached to the rear of the bottom pan.
21. The snowmobile platform of claim 20, wherein:

the width of the engine cradle subassembly is selected at least as a function of a size of an engine selected for placement onto the snowmobile platform; and

the length of the tunnel subassembly is selected at least as a function of the size of the engine selected for placement onto the snowmobile platform.

22. The snowmobile platform of claim 11, wherein the front suspension subassembly comprises:

a V-shaped member with left and right sides;

a left side wall attached to the left side of the V-shaped member;

a right side wall attached to the right side of the V-shaped member;

at least four A-arms pivotally connected to the V-shaped member, two on the left side and two on the right side;

at least one shock absorber connected between the left side wall and one of the A-arms on the left side of the V-shaped member; and

at least one shock absorber connected between the right side wall and one of the A-arms on the right side of the V-shaped member.